

Exponent®
Engineering & Scientific Consulting

Dylan Roderick, Ph.D., CFEI

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Professional Profile

Dr. Dylan Roderick has assisted clients in a broad range of matters involving electronics and electrical systems including industrial electrical systems, consumer products, and automotive electrical and driver assistance systems. He has worked with matters involving fires, explosions, personal injury, and regulation.

Dr. Roderick has assisted clients in analyzing consumer products with regards to safety, regulation, and design. His work has included investigating customer complaints regarding fires, explosions, shock hazards, burns, and failures. As part of his work, Dr. Roderick has handled matters that involved the Consumer Product Safety Commission including assisting clients in responding to potential recalls as well as other regulatory matters.

Dr. Roderick has experience with projects involving large scale electrical systems, including electrical installations in water treatment facilities, shopping centers, steel manufacturing facilities, and wind farms. His work with these electrical systems includes matters involving construction, safety, and regulation. Additionally, he has experience investigating industrial machinery and control systems, including in cases that involve worker injury.

Dr. Roderick received his Ph.D. in Physics from The Ohio State University. His research focused on the control and use of microscopic magnetic systems. Using microscopic machines built with DNA and controlled with magnetic microbeads, he investigated magnetic phenomena and molecular forces. Additionally, he led a team in the construction of a system that tracked microscopic magnetic objects and controlled their movement in real time. As part of this dissertation work, he developed programs for analysis in MATLAB and neural network tracking algorithms in Python and C# and built multiple unique microscope systems.

Academic Credentials & Professional Honors

Ph.D., Physics, The Ohio State University, 2023

B.S., Physics, University of Illinois, Urbana-Champaign, 2014

Licenses and Certifications

Certified Fire and Explosion Investigator (CFEI)

Professional Affiliations

American Physical Society (APS), Member

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Publications

Prikockis M, Wijesinghe H, Chen A, VanCourt J, Roderick D, Sooryakumar R. An on-chip colloidal magneto-optical grating. Appl. Phys. Lett. 108, 161106 (2016).

Doctoral Thesis:

Roderick D. Experiments with Dynamically Controlled Magnetic Micromachines: Levers, Hinges, and Beads. The Ohio State University, Columbus, OH, 2023.

Presentations

Brillouin Light Scattering (BLS) Microscopy and Applications, Graduate Summer Research Presentation, The Ohio State University, August 2015

Optimization of the Mu2e Apparatus Muon Stopping Target, Undergraduate Research Seminar, University of Illinois at Urbana-Champaign, January 2014